

REMARKS

This Amendment is being filed in response to the Final Office Action mailed April 23, 2007, which has been reviewed and carefully considered. Entry of the present amendment and allowance of the present application in view of the amendments made above and the remarks to follow are respectfully requested.

In the Final Office Action, the Examiner indicated that claims 11, 19, 18 and 20 would be allowable if rewritten in independent form. Applicants gratefully acknowledge the indication that claims 11, 19, 18 and 20 contain allowable subject matter. By means of the present amendment, claims 11, 19, 18 and 20 have been rewritten in independent form without including all features of base claims that are believed to be not necessary for patentability.

In the Final Office Action, the Examiner objected to the specification for a certain informality. In response, the specification has been amended in accordance with the Examiner's suggestions. Accordingly, withdrawal of the objection to the specification is respectfully requested.

In the Final Office Action, claim 5 is rejected under 35

Amendment in Reply to Final Office Action of April 23, 2007

U.S.C. §112, second paragraph as being indefinite for failing to point out and distinctly claim the subject matter. This rejection is respectfully traversed. The Final Office Action states on page 3, 2nd paragraph, "[t]he claim [5] describes an optical device comprising a reflector located at one of the optical device. This would imply that there is more than one optical device." It is respectfully submitted that the Final Office Actions misquotes claim 5 because claim 5 does not include the phrase "reflector located at one of the optical device" or the even the term "reflector". Accordingly, it is respectfully submitted that this rejection be withdrawn.

In the Final Office Action, page 2, Response to Arguments section, it is stated the feature relied on, namely, "that the references do not teach an asymmetric meniscus," is not recited in the rejected claims. It is respectfully submitted that independent claim 1, 5 and 9-10 recite that "the meniscus is asymmetric with respect the optical axis," which is similar to an "asymmetric meniscus."

In the Final Office Action, claims 1-6, 9-10, 12-15, 17 and 19 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over

Amendment in Reply to Final Office Action of April 23, 2007

U.S. Patent No. 4,583,824 (Lea) in view of U.S. Patent No. 4,226,507 (Fuschetto). Further, claims 1, 5 and 7-8 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 5,825,801 (Nishida) in view of U.S. Patent No. 7,016,560 (Ticknor) and Fuschetto. It is respectfully submitted that claims 1-20 are patentable over Lea, Fuschetto, Nishida and Ticknor for at least the following reasons.

Lea is directed to an electrocapillary device that includes two immiscible fluids 31, 33. As clearly shown in the various figures of Lea, such as FIG 2, all meniscuses of Lea are uniform and symmetric.

Nishida is directed to a laser apparatus where a curvature of a reflection mirror is changeable by changing the pressure of a fluid. As correctly noted by the Examiner, Nishida does not teach or suggest a second fluid. Ticknor is cited in an attempt to remedy the deficiencies in Nishida.

Ticknor is directed to microfluidic control for waveguide optical switches having two immiscible fluids. As clearly shown in the various figures of Ticknor, such as FIG 3, all meniscuses of Ticknor are uniform and symmetric.

Fuschetto is cited in an attempt to remedy the deficiencies in Lea, Nishida and Ticknor. Fuschetto is directed to a deformable mirror 11 attached to an actuator assembly having three piezo stacks 13, 15, 17 as shown in FIG 4. The Fuschetto deformable mirror 11 is not formed from any fluids. Rather, the Fuschetto deformable mirror 11 is formed from a flexible solid substance, and not from any fluids.

It is respectfully submitted that, at best, the combination of Lea, Fuschetto, Nishida and Ticknor teaches two immiscible fluids with uniform and symmetric meniscuses plus a solid-phase deformable mirror.

There is simply no disclosure or suggestion in Lea, Fuschetto, Nishida, Ticknor, and combinations thereof of the present invention as recited in independent claim 1, and similarly recited in independent claims 5 and 9-10 which, amongst other patentable elements, requires (illustrative emphasis provided):

a first fluid and a second fluid in contact over a meniscus extending transverse an optical axis, the fluids being substantially immiscible and having different indices of refraction;
a reflective surface extending transverse the optical axis; and
a meniscus adjuster arranged to controllably alter at least one of the shape and the position of

the meniscus so that the meniscus is asymmetric with respect the optical axis.

An asymmetric fluid meniscus is nowhere disclosed or suggested in Lea, Fuschetto, Nishida, Ticknor, and combinations thereof. Accordingly, it is respectfully submitted that independent claims 1, 5 and 9-10 are allowable, and allowance thereof is respectfully requested. In addition, it is respectfully submitted that claims 2-4, 6-8, 12-15, 17 and 19 should also be allowed at least based on their dependence from independent claims 1, 5 and 9-10.

Claim 4 also includes patentable features, namely, the mirror of claim 1 further comprising an aspherical lens element. Official Notice is taken on page 5 of the Final Office Action.

Applicants, again, respectfully traverse the holding of the Official Notice that aspherical lens configurations are well known. It is respectfully submitted that claim 4 does not merely require "aspherical lens configuration." Rather, claim 4 requires an adjustable mirror as recited in claim 1, such as having two fluids, which also includes an aspherical lens element. Applicants request that the Examiner provide prior art references clearly illustrating an adjustable mirror as recited in claim 1 which also includes an aspherical lens element.

In addition, Applicants deny any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Applicants reserve the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded. And in particular, no Official Notices are conceded.

In view of the above, it is respectfully submitted that the present application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

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